

REMARKS

Claims 48, 50, 52, 53, 59 and 68 have been amended. Claims 56 - 58 and 60 - 64 have been cancelled. Thus, claims 45 - 55, 59, 65, 66 and 68 are now pending in this application. Based on the above amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable.

In the Office Action mailed July 10, 2003 ("the Office Action"), the Examiner has withdrawn claim 45 and the claims dependent thereon from consideration stating that the recitation in claim 45 of the use of "two stimulation frequencies" is inconsistent with the election of Species II (Version 2). However, it is respectfully submitted that Version 2 is described as using split half replication as in Version 1 *and significant abnormalities identified by a beep or other appropriate signal*. (Spec., page 29, lines 2 - 4) Thus, Version 2 describes computer analysis of the brain waves and automatic generation of warning signals when an abnormality is detected. In addition, the referenced portion of Version 1 describes in detail simultaneous stimuli applied at 2 different frequencies (*Id.*, page 16, lines 1 - 5). Furthermore, Version 2 is described as optionally incorporating a stimulus device providing audio or somatosensory stimulus at frequencies for which power ratios are simultaneously encoded. (*Id.*, page 9, lines 2 -4). Thus, it is respectfully submitted that Version 2 is described as optionally simultaneously applying stimuli at more than one frequency and automatic detection of brain wave abnormality based on this data.

It is respectfully submitted therefore that claim 45 and claims 46 and 47 dependent thereon should be reinstated for prosecution on the merits.

The Examiner has also withdrawn claim 52 and claims 53 - 55, 59, 65 and 66 dependent thereon from consideration stating that comparing the brain waves to a known pattern of brain waves is drawn to another embodiment. In view of the above amendments to these claims, it is

respectfully submitted that these claims are drawn to the elected species and that claims 52 - 55, 59, 65 and 66 should be reinstated.

The Examiner has rejected claims 50 and 51 under 35 U.S.C. § 112, first paragraph, as including subject matter not sufficiently described in the specification. In view of the above amendment to claim 50, it is respectfully submitted that these claims now fully comply with § 112 and that this rejection should be withdrawn.

Claim 68 stands rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. In view of the above amendment to claim 68, it is respectfully submitted that this claim now fully complies with § 112 and that this rejection should be withdrawn.

Claims 49 - 52 and 68 stand rejected under 35 U.S.C. § 103 as obvious over Hartzell (U.S. Patent No. 3,821,949) in view of Zimmerman (U.S. Patent No. 5,279,305) and Devito (U.S. Patent No. 6,001,065). The Examiner stated, in support of the rejection, that Hartzell shows the invention substantially as claimed except for the wireless communication with electrodes and a headband EEG device, but that these elements are shown in Zimmerman and Devito, respectively. Although the Examiner has rejected claims 49-52 and did not address claim 48 in this rejection, it appears that the rejection was intended for claims 48-51 and the rejection will be dealt with as if it applied to independent claim 48.

Claim 48 recites a medical system to analyze brain waves of a subject, comprising an EEG electrode associated with connection means removably connecting the electrode to a subject's head and "radio broadcast means *situated on the connection means*, the radio broadcast means generating a brain wave broadcast signal by modulating a carrier signal based on the detected analog brain waves, the radio broadcast means broadcasting the brain wave broadcast signal" in combination with "a receiver receiving and amplifying the broadcast brain wave signal" and "sound generating means coupled to the radio receiver, the sound generating means

demodulating the amplified broadcast brain wave signals and converting demodulated brain waves into tone-like sounds."

In contrast, Hartzell purports to show an EEG system which generates alarm tones when signals are detected within prescribed frequency ranges. That is, whenever a signal is detected within a predetermined frequency range (e.g., the Delta, Theta, Alpha and Beta bands), the system of Hartzell generates an audio signal which simply indicates that a signal has been detected in one of the preselected ranges. (Spec. col. 6, lines 60 - 65). As with prior systems, Hartzell produces chart type output indicative of the varying potentials sensed by the electrodes. (Spec. col. 5, line 60 to col. 6, line 3). However, the audio output is not of this nature. Hartzell generates feedback control voltages having identifiable frequencies indicative of the presence of signals within the predetermined frequency bands." (Spec., col. 8, lines 43 - 46 and lines 54 - 56). The system then sums these signals to generate a subject perceivable feedback indication. (Spec., col. 8, line 65 to col. 9, line 2).

As mentioned before, the oscillator output signals 132, 134 and 136 each have a preselected frequency such that the separate tones being simultaneously amplified and produced via the summing amplifier 72 are distinguished by the subject or, in other words, such that when two or more oscillator output signal tones are being produced simultaneously by two or more of the feedback processing channels 78, 80 and 82, the simultaneously produced feedback oscillator output signals 132, 134 and 136 are individually identifiable and distinguishable by the subject.

(Spec., col. 18, lines 30 - 42).

This is a significant difference from the claimed "sound generating means coupled to the radio receiver, the sound generating means *demodulating the amplified broadcast brain wave signals and converting demodulated brain waves into tone-like sounds*" which produces a signal varying with the brain waves themselves and not consisting of one to three static frequency signals.

It is respectfully submitted therefore that Hartzell fails to show or suggest a medical

system to analyze brain waves of a subject, comprising "sound generating means coupled to the radio receiver, the sound generating means *demodulating the amplified broadcast brain wave signals and converting demodulated brain waves into tone-like sounds.*" It is further submitted that neither Devito nor Zimmerman cures this defect.

Furthermore, it is respectfully submitted that none of the cited references either shows or describes a medical system comprising connection means removably connecting an electrode to a subject's head and "radio broadcast means *situated on the connection means,*" as recited in claim 48.

For these reasons, it is respectfully submitted that claim 48 is not rendered obvious by Hartzell, Devito and Zimmerman, either taken alone or in combination. Because claims 49 - 51 depend from and, therefore, include all of the limitations of claim 48, it is respectfully submitted that these claims are also allowable.

Similarly claim 68 recites "generating sounds based on the brain wave signals using the hand-held receiver by demodulating the amplified broadcast brain wave signals." Thus, it is respectfully submitted that this claim is allowable for the same reasons stated above in regard to claim 48.

It is therefore respectfully submitted that all of the pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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